

REMARKS/ARGUMENTS

Claims 1, 3 and 5-15 and 22-23 are active. Claims 16-21 have been withdrawn from consideration. The Applicants thank Examiners Young and SPE Wilson for the courteous interview of April 11, 2003. The claims have previously been limited to β 1,3-1,6 glucan produced by a single deposited strain (FERM P18099) of *Aureobasidium* fungi. The Examiners were concerned that the prior art fungal strains may produce *exactly* the same type of glucans that strain FERM P18099 does, and thus have maintained the prior anticipation rejections. It was suggested that the Applicants further elaborate on how the β 1,3-1,6 glucan produced by strain FERM P18099 differs from glucans produced by other types of fungi, especially other *Aureobasidium* fungi. The Applicants do maintain the Office has the initial burden of asserting a reason why it believes that all different strains of *Aureobasidium* would make exactly the same type of β 1,3-1,6 glucan, to expedite prosecution Applicants now show how the β 1, 3-1, 5 glucan produced by strain FERM P18099 would differ from glucans produced by other fungi, especially from those of other strains of *Aureobasidium* fungi. Favorable consideration is respectfully requested.

Election/Restriction

The Applicants note that the prior restriction requirement has now been made final. Upon an indication of allowable subject matter, they respectfully request rejoinder of nonelected method claims which depend from or which otherwise include all the limitations of an allowable product claim.

Anticipation Rejections

All the following prior art rejections are based on documents which disclose glucans produced by fungal strains which are not the particular deposited strain recited by the claims: FERM P18099. The Patent Office position is that the prior art inherently discloses the same β 1,3-1,6 glucan absent evidence to the contrary. However, none of the cited prior art explicitly discloses that the β 1,3-1,6 glucan produced by strain FERM P18099 is the same as any of the glucans produced by the prior art fungi.

Prior to review of the responses to the prior art rejections, the Applicants direct the Examiner's attention to MPEP 2131.02 and the following case law citation:

"To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Continental Can Co. USA v. Monsanto Co., 20 USPQ2d 1746 (Fed. Cir. 1991).

In the present case, the Applicants have limited all the claims to β 1,3-1,6 glucan produced by a deposited strain FERM 18099 and assert that one with ordinary skill in the art would not expect that every strain of *Aureobasidium* makes the exactly the same type of beta-glucan. The Office has not presented any extrinsic evidence to indicate that all strains of *Aureobasidium*, or even that all strains of *Aureobasidium pullulans*, necessarily produce the same type of β 1,3-1,6 glucan.

Moreover, the β 1,3-1,6 glucan compositions produced by FERM P18099 of the present invention have functional properties which distinguish them from similar compositions produced by other similar fungal strains, e.g., strain FERM P4257. These properties include a stronger ability to induce DNA synthesis, induce cytokine synthesis, such as IL-8 production, and differentially influence the antigenic characteristics of cell surface

antigens compared to strain FERM P4257. Therefore, the Applicants respectfully request that the anticipation and obviousness rejections below be withdrawn.

Rejection – 35 U.S.C. § 102

Claims 1, 3, and 5-7 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hamada, Agric. Biol. Chem. 47(6): 1167-1172. The present claims are limited to β 1,3-1,6 glucans from strain FERM P18099. Page 8 of the specification indicates that strain FERM P-18099 is a kind of *Aureobasidium pullulans*.

Hamada, page 1167, first col., lines 10-12, indicates that the polysaccharide produced by the *Aureobasidium* strain of Hamada “differed from those produced by *Aureobasidium pullulans*”.

Since the Hamada polysaccharides differ from those produced by *Aureobasidium pullulans*, they differ from those of the present invention. Accordingly, this rejection may now be withdrawn.

Rejection – 35 U.S.C. § 102

Claims 1, 3, 5, 6, and 8-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by patent publication JP 06-340701 A to Watanabe et al. This document teaches beta-glucan from *A. pullulans* strain IFO 4466. While the Watanabe beta-glucan is disclosed as having particular structural characteristics, Watanabe does not disclose or suggest a glucan produced by strain FERM P-18099, the strain to which the present claims are limited.

Rejection – 35 U.S.C. § 102(b)

Claims 1, 3, 5, 6, 8 and 13 were rejected under 35 U.S.C. § 102(b) as being anticipated by patent publication JP 62-205008 A to Shinohara et al. Shinohara discloses a β 1,3-1,6 glucan produced by *Aureobacidium* sp. The specific species of *Aureobasidium* is not described, nor is there any disclosure of strain FERM P18099. There is no reasonable basis for believing that the Sinohara *Aurobasidium* sp. is strain FERM P18099, nor believing that it produces the same type of β 1,3-1,6 glucan as strain FERM P18099. Accordingly, the Applicants submit that this rejection should be withdrawn in view of the amendment of the claims to glucans produced by strain FERM P18099.

Rejection – 35 U.S.C. § 102(b)

Claims 1, 3, 5, 6, 8 and 14-15 were rejected under 35 U.S.C. § 102(b) as being anticipated by patent publication JP 06-146036 A to Hasegawa et al. This English Abstract discloses a β 1,3 glucan from *Auerovacidium*. It does not disclose β 1,3-1,6 glucan from *Aureobasidium pullulans* strain FERM P18099. There is no reasonable basis for believing that the Hasegawa β 1,3 glucan is a β 1,3-1,6 glucan or that it is produced and has the characteristics of that produced by strain FERM P18099. Accordingly, the Applicants respectfully request that this rejection be withdrawn.

Rejection – 35 U.S.C. § 103(a)

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over patent publication JP 06-340701 A to Watanabe et al., in view of Finkelman et al., Canadian Journal of Microbiology, 33(2): 123-127.

The Applicants submit that this rejection may be withdrawn in view of the amendment of the claims to specify that the glucan is produced by strain FERM B18099.

This strain is disclosed nor suggested by the cited prior art. The Official Action asserts that it would have been obvious to use any strain of *Aureobasidium*, including strain FERM P-18099, to make β -1.3-1.6-glucans.

In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, see MPEP 2144.06 (col. 2, on page 2100-139, Feb. 2003 edition). However, the documents cited by the outstanding rejection do not establish that strain FERM P-18099 is recognized in the prior art as an equivalent to other *Aureobasidium* strains.

Moreover, as apparent from page 1167, col. 1, of the Hamada reference (mentioned above), not all *Aureobasidium* strains produce equivalent carbohydrates. The characteristics of strain FERM P-18099 are extensively described in the disclosure starting at page 7, line 21. However, a strain with these same characteristics is not described by the cited documents. As there is no description of strain FERM P-18099 in the cited prior art, nor adequate description in the cited prior art that this strain is equivalent to prior art strains, the Applicants respectfully submit that this rejection be withdrawn.

Rejection – 35 U.S.C. § 103(a)

Claims 22-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over patent publication JP 06-340701 A to Watanabe et al. Claims 22 and 23 both require a product comprising the β -1.3-1.6-glucan from FERM P-18099. Watanabe does not render obvious the product of Claim 22, because this document does not disclose or suggest 1.3-1.6-glucan from FERM P-18099, only a highly branch beta-glucan from a different *A. pullulans* strain IFO 4466. Moreover, Claim 22 requires a product formulated as a disinfectant or sanitizer from such a glucan. Wantanabe (English Abstract) does not disclose or suggest

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Reply to Office Action of October 16, 2003

sanitizers or disinfectants formulated from such glucans. Accordingly, the Applicants respectfully request that this rejection be withdrawn.

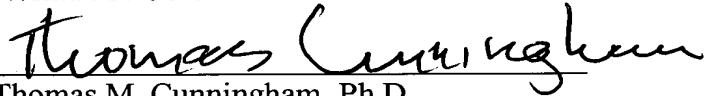
CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that this application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

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FULL TEXT OF CASES (USPQ2D)

All Other Cases

Continental Can Co. USA Inc. v. Monsanto Co. (CA FC) 20 USPQ2d 1746 (11/13/1991)



Continental Can Co. USA Inc. v. Monsanto Co. (CA FC) 20 USPQ2d 1746

Continental Can Co. USA Inc. v. Monsanto Co.**U.S. Court of Appeals Federal Circuit**
20 USPQ2d 1746

Decided November 13, 1991

No. 90-1328

Headnotes**JUDICIAL PRACTICE AND PROCEDURE****1. Procedure - Summary judgment - Patents**

Summary judgment is as available in patent cases as in other areas of litigation and can facilitate disposition of legally meritless suits, but improvident grant of summary judgment can prolong litigation and increase its burdens, especially in patent disputes in which patent property is wasting asset.

PATENTS**2. Patentability/Validity - Anticipation - In general** (§ 115.0701)

Anticipation under 35 USC 102 cannot be found if more than one reference is required to establish unpatentability of claimed invention; rather, validity in such case is determined pursuant to 35 USC 103.

3. Patentability/Validity - Anticipation - Prior art (§ 115.0703)**Patent construction - Claims - Defining terms** (§ 125.1305)

Federal district court erred by ruling, on summary judgment, that claims for patented bottle were anticipated by

prior art, since court erred in its construction of claim term "hollow," and since disputed issue of fact exists as to whether injection blow molding process necessarily produced "hollow" ribs in prior art base structure, as term "hollow" is used in patent.

4. Patentability/Validity - Anticipation - Prior sale - In general (§ 115.0707.01)

"On sale" bar of 35 USC 102(b) does not arise simply because intended customer was participating in development and testing, but rather all circumstances concerning relationship between patentee and customer must be considered in light of public policy underlying Section 102(b); thus, federal district court erred in determining that bottle was "on sale," in view of evidence showing that bottle was part of terminated development project that never bore commercial fruit and was cloaked in confidentiality.

5. Patentability/Validity - Obviousness - Combining references (§ 115.0905)

Federal district court erred by ruling, on summary judgment, that claimed bottom structure for plastic container was obvious, since, drawing all reasonable inferences in favor of patentee, it has not been established that person skilled in art would be motivated to select and combine features from each prior art source to make patented base.

6. Patentability/Validity - Obviousness - Secondary considerations generally (§ 115.0907)

Differences between patented invention and prior art which may appear technologically minor nonetheless can have practical impact, particularly in crowded field, and in such case objective indicia, such as commercial success, or filling existing need, illuminate technological and commercial environment of inventor, and aid in understanding state of art at time invention was made.

7. Patentability/Validity - Obviousness - Commercial success (§ 115.0908)

Patented invention need not be solely responsible for commercial success in order for this factor to be given appropriate weight.

Particular patents - General and mechanical - Plastic bottle

4,108,324, Krishnajumar, Roy, Pocock, Das, and Mahajan, ribbed beverage bottle structure for plastic container created by plastic hot-fill, summary judgment of invalidity vacated in part, reversed in part, and remanded.

Case History and Disposition:

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Appeal from the U.S. District Court for the Southern District of Ohio, Spiegel, J.; 11 USPQ2d 1761.

Patent infringement action brought by Continental Can Co. USA Inc. and Continental Pet Technologies Inc. against Monsanto Co., Hoover Universal Inc., and Johnson Controls Inc. From federal district court decision entering summary judgment in favor of defendants, plaintiffs appeal. Vacated in part, reversed in part, and remanded.

Attorneys:

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Chicago; Kurt L. Grossman, of Wood, Herron & Evans, Cincinnati, Ohio, with him on brief), for plaintiff-appellants.

Henry J. Renk, New York, N.Y. (Lawrence F. Scinto and Bruce C. Haas, of Fitzpatrick, Cella, Harper & Scinto, New York; Jacob K. Stein and Deborah DeLong, of Thompson, Hine & Flory, Cincinnati, Ohio; Lawrence L. Limpus, St. Louis, Mo., and Edward L. Levine, Milwaukee, Wis., with him on brief), for defendants-appellees.

Judge:

Before Newman, Archer, and Rader, circuit judges.

Opinion Text

Opinion By:

Newman, J.

Continental Can Company USA and Continental PET Technologies (collectively "Continental") appeal the partial summary judgment of the United States District Court for the Southern District of Ohio, holding that United States Patent No. 4,108,324 (the Conobase or '324 patent) is invalid. 1 Final judgment was entered on this issue, for the purpose of appeal.

Summary Judgment

An issue may be decided on motion for summary judgment when there is no genuine issue of material fact, and the movant is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986); *Celotex Corp. v. Catrett*, 477 U.S. 317, 325-26 (1986); *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1571, 18 USPQ2d 1001, 1005 (Fed. Cir. 1991). The movant's burden is to show that no fact material to the issue is in dispute, that even if all material factual inferences are drawn in favor of the non-movant the movant is entitled to judgment as a matter of law. *Id.* Summary judgment is as available in patent cases as in other areas of litigation. *Chore-Time Equipment, Inc. v. Cumberland Corp.*, 713 F.2d 774, 778-79, 218 USPQ 673, 675 (Fed. Cir. 1983)

The purpose of the summary process is to avoid a clearly unnecessary trial, *Matsushita Elec. Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986); it is not designed to substitute lawyers' advocacy for evidence, or affidavits for examination before the fact-finder, when there is a genuine issue for trial. As stated in *Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 176 (1970) (Black, J., concurring), "[t]he right to confront, cross-examine and impeach adverse witnesses is one of the most fundamental rights sought to be preserved by the Seventh Amendment". See also *Poller v. Columbia Broadcasting System, Inc.*, 368 U.S. 464, 473 (1962).

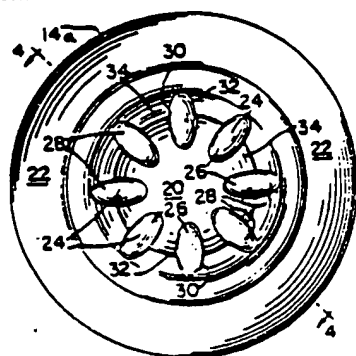
[1] While facilitating the disposition of legally meritless suits, when summary judgment is improvidently granted the effect is to prolong litigation and increase its burdens. This is of particular concern in patent disputes, where the patent property is a wasting asset, and justice is ill served by delay in final resolution. In the case at bar, although some issues could be resolved on the law and undisputed facts, other issues require trial.

The Patented Invention

The '324 patent, entitled "Ribbed Bottom Structure for Plastic Container", inventors Suppayan M. Krishnakumar, Siegfried S. Roy, John F. E. Pocock, Salil K. Das, and Gautam K. Mahajan, is directed to a plastic bottle whose bottom structure has sufficient flexibility to impart improved impact resistance, combined with sufficient rigidity to resist deformation under internal pressure. The patented bottle is said to provide a superior combination of these properties. The bottom structure is illustrated as follows:

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Fig. 2

FIG. 2

Claim 1 is the broadest claim of the '324 patent:

1. A container having a sidewall and a bottom structure closing the container at an end portion of the sidewall, the outer surface of the bottom structure comprising a central concavity, a convex heel surrounding the concavity and merging therewith and with the sidewall end portion, the lowermost points of the heel lying in a common plane, and a plurality of ribs interrupting the outer surface of the concavity and distributed in a symmetrical array, each rib extending longitudinally in the direction of the heel and downwardly from an inner portion of the concavity, whereby the outer end portion of each rib is lower than the inner end portion thereof, characterized by the feature that the ribs are hollow.

Claims 2 through 5 include additional limitations, described as contributing to the structure's rigidity, flexibility, or both. Claim 2 specifies the ratios of thickness of the walls of the bottom structure to the thickness of the sidewall end portions. Claim 3 specifies that the margins of each rib merge smoothly with adjacent portions of the bottom structure. Claim 4 specifies that each rib is convex relative to the bottom structure. Claim 5 specifies that each rib is of fusiform (a gently tapered shape at the ends) configuration. Each claim carries an independent presumption of validity, 35 U.S.C. § 282, and stands or falls independent of the other claims. *Altoona Publix Theatres, Inc. v. American Tri-Ergon Corp.*, 294 U.S. 477, 487 [24 USPQ 308] (1935). Continental brought suit for patent infringement against Monsanto Company and Monsanto's successor in this business, Hoover Universal, Inc. and Hoover's parent company, Johnson Controls (collectively "Monsanto"). Monsanto moved for partial summary judgment based on issues of validity under 35 U.S.C. §§ 102 and 103.

I

35 U.S.C. § 102(a)

The statutory requirement that a patented invention be "new" is tested in accordance with 35 U.S.C. § 102(a), which provides that:

§ 102. A person shall be entitled to a patent unless-

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent....

The district court found that all the claims of the '324 patent were anticipated by U.S. Patent No. 3,468,443 (the Marcus patent). We conclude that the district court erred in claim interpretation, and also found disputed facts adversely to the nonmovant, thus inappropriately deciding the issue summarily.

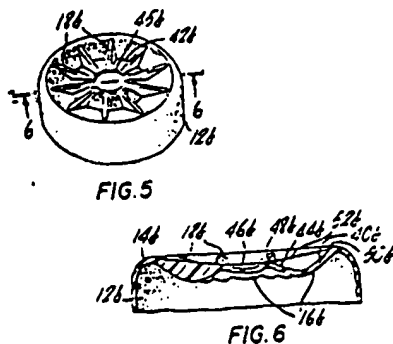
[2] Anticipation under § 102(a) requires that the identical invention that is claimed was previously known to others and thus is not new. *Scripps Clinic*, 927 F.2d at 1576, 18 USPQ2d at 1010; *Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 780, 227 USPQ 773, 777-78 (Fed. Cir. 1985); *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). When more than one reference is required to establish unpatentability of the claimed invention anticipation under § 102 can not be found, and validity is determined in terms of § 103.

It was Monsanto's burden to show that every element of the several claims of the '324 patent was identically described in the asserted anticipating reference, the Marcus patent. The district court focused on the term "characterized by the feature that the ribs are hollow", which limits all of the '324 patent claims. Continental argues that the district court incorrectly construed this term, as a matter of law, and that the Marcus patent shows ribs that are not hollow, as that term is used in the '324 patent. Continental also points to other

differences between the '324 claims and the description in the Marcus patent.

The Marcus patent rib structure is illustrated in Figure 5 and in cross-section in Figure 6:

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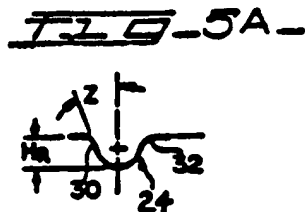


The Marcus patent does not state that its ribs are "hollow", or use a similar term. Continental's witnesses testified by deposition that the Marcus patent shows solid, not hollow, ribs. A witness (Adomaitis) had stated in an internal memorandum written at Continental in 1969, well before this litigation arose, that "the ribs of their [Marcus'] web can be made of solid beams only." Another witness, '324 co-inventor Pocock, testified that: It seems evident to me that he [Marcus] was trying to produce some kind of container integrity by the production of essentially solid ribs on the bottom of the bottle. It seems to go to great length here to illustrate them as such.

Krishnakumar, another co-inventor, testified that it "is very obvious the ribs are shown solid", and that Figures 5 and 6 as well as Figures 7 through 12 of the Marcus patent all show solid ribs. However, Marcus, testifying for Monsanto, testified that his ribs were hollow, and that conventional blow molding would inherently produce hollow ribs.

The district court defined "hollow" as meaning that "the inside contour of the ribs generally follows the outside contour thereof", a definition on which the parties agreed. *Continental*, 11 USPQ2d at 1764. See the court's opinion, 11 USPQ2d at 1764-68, for various sketches made by the witnesses. Continental states that the district court erred in construing "hollow", and that the phrase "characterized by the feature that the ribs are hollow" must be construed in terms of the patent in which it appears. See, e.g., *Tandon Corp. v. United States Int'l Trade Comm'n*, 831 F.2d 1017, 1021, 4 USPQ2d 1283, 1286 (Fed. Cir. 1987). The '324 patent explicitly distinguished the Marcus teachings, stating that the '324 ribs are, unlike Marcus, not filled with plastic. The '324 specification uses the term "hollow", as do the prosecution history and the claims, for this purpose. The '324 patent's usage of "hollow" is illustrated in rib cross-section in Figure 5A:

Fig. 5A



The Marcus patent's rib structure thus was explicitly differentiated by the term "hollow" as used in the '324 specification, drawings, and prosecution history. Since the claim term must be construed as used by the patentee, the district court erred in its construction of the '324 claim term "hollow". On correct claim construction, the factual question of anticipation must be decided.

Monsanto's argument is that hollow ribs were inherently produced by Marcus. Monsanto thus argues that anticipation lies because the Marcus patent's ribs are "inherently" hollow, regardless of how they are shown in the Marcus patent. Monsanto argues that because the Marcus ribs are formed by injection blow molding, which is the same process described for the Conobase '324 ribs, hollow ribs are inherently disclosed in the Marcus patent.

To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the

reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (quoting *Hansgirk v. Kemmer*, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)) provides: Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient. This modest flexibility in the rule that "anticipation" requires that every element of the claims appear in a single reference accommodates situations where the common knowledge of technologists is not recorded in the reference; that is, where technological

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facts are known to those in the field of the invention, albeit not known to judges. It is not, however, a substitute for determination of patentability in terms of § 103.

[3] Continental does not dispute the applicability of the injection blow molding process. However, Continental disputes the material of fact of whether this process necessarily produced "hollow" ribs in the Marcus base structure, as the term "hollow" is used in the '324 patent. Resolution of this disputed fact adversely to Continental was improper on summary judgment. The grant of summary judgment of anticipation under § 102 (a) is vacated. The issue requires trial.

II

35 U.S.C. § 102(b)

The district court also held that the Marcus bottle was on sale, 35 U.S.C. § 102(b). Section 102(b) bars entitlement to a patent when:

(b) the invention was ... in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States....

The Marcus bottle was developed some ten years before the filing date of the '324 patent, during a project wherein Marcus' employer, Admiral Plastics or APL Corporation, entered into agreements with the Coca-Cola Company for the development of a suitable plastic bottle. The agreements provided that Admiral Plastics would make and Coca-Cola would test the bottles, and that if a satisfactory bottle was developed it would be manufactured by Admiral and purchased by Coca-Cola. Minimum commercial quantities and maximum commercial prices were stated in an agreement, and costs were a matter of discussion. Admiral produced a variety of bottle shapes, including the Marcus bottle. The project was terminated after about two years, because the "mechanical performance" requirements were not met as Coca-Cola wrote at the time.

[4] The district court reasoned that this project "called for the eventual marketing of the Marcus bottles once all technical difficulties were resolved", *Continental*, 11 USPQ2d at 1766, and on this basis held that the Marcus bottles were on sale. This holding was in error, for the "on sale" bar of § 102(b) does not arise simply because the intended customer was participating in development and testing. *See Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 164-65, 228 USPQ 356, 358 (Fed. Cir. 1986). In *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1563-65, 4 USPQ2D 1210, 1213-15 (Fed. Cir. 1987), this court summarized various factors pertinent to the "on sale" bar when there is an issue concerning the relationship between the patentee and the customer: for example, whether there was a need for testing by other than the patentee; the amount of control exercised; the stage of development of the invention; whether payments were made and the basis thereof; whether confidentiality was required; and whether technological changes were made. All of the circumstances attending the relationship must be considered in light of the public policy underlying § 102(b). *UMC Electronics Co. v. United States*, 816 F.2d 647, 656, 2 USPQ2d 1465, 1471-72 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1025 (1988).

The district court acknowledged that all technical difficulties were not resolved and that no sales were ever made. Although Admiral Plastics' hope was surely commercial sales, and the record shows that prices and quantities were discussed, this does not of itself place the subject matter "on sale" in the sense of § 102(b). The Marcus bottle was part of a terminated development project that never bore commercial fruit and was cloaked in

confidentiality. While the line is not always bright between development and being on sale, see generally *UMC Electronics, supra*, in this case the line was not crossed. The "on sale" bar is measured by "the time the public came into possession of the invention", *id.* at 655, 2 USPQ2d at 1471 (quoting *In re Foster*, 343 F.2d 980, 987-88, 145 USPQ 166, 173 (CCPA 1965), *cert. denied*, 383 U.S. 966 [149 USPQ 906] (1966) ("What starts the period running is clearly the availability of the invention to the public through the categories of disclosure enumerated in 102(b). ..." (emphasis in original))). We conclude that the district court erred in holding that the circumstances that here existed placed the Marcus bottles "on sale" in terms of § 102(b). We therefore reverse and direct that on remand judgment on this issue shall be entered in favor of Continental, as a matter of law.

III

35 U.S.C. § 103

Obviousness, 35 U.S.C. § 103, is reviewed as a legal conclusion based upon underlying facts of four general categories, viz. the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill at the time the invention was made, and any objective considerations that may be present. *Gra*

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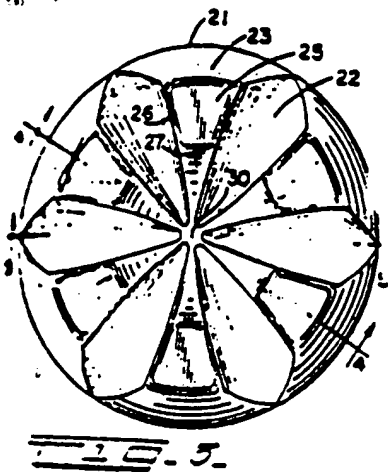
ham v. John Deere Co., 383 U.S. 1, 17 [148 USPQ 459] (1966); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1137-38, 227 USPQ 543, 547 (Fed. Cir. 1985).

[5] The parties agreed that the scope and content of the prior art was adequately represented by four references: the Marcus patent discussed in Part I *ante*, a patent to Colombo (U.S. Patent No. 3,403,804), and two patents owned by Continental, U.S. Patent No. 3,598,270 (the Petaloid patent), and No. 3,935,955 (the Decaloid patent). They agreed on little else. In granting summary judgment of invalidity for obviousness, the district court found certain disputed material facts and misapplied certain precepts of law. We conclude that the issue was not amenable to summary resolution. Although it is not entirely clear how the references were combined by the court, we shall review the references briefly, in order to explain our conclusion.

The Petaloid Patent

The district court referred to the deposition testimony of Siegfried Roy, one of the co-inventors of the '324 patent, that the Petaloid base, inverted, was similar to the Conobase. Continental points out that neither Roy nor any other deponent suggested that the Petaloid base could be or should be inverted, or that inversion would provide an improved base structure. In *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) this court held that although a prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down. Continental points out that the Petaloid description differs in several other ways from the '324 invention. In the '324 structure the outer end of each rib is lower than the inner end, whereas in the Petaloid structure the outer ends of the ribs are higher than the inner ends; that is, the ribs in the Petaloid base extend upward from the center to the sidewall. The Petaloid bottle is supported on feet extending between the ribs, such feet being the locations for stress concentrations. The following drawing is from the Petaloid patent:

Fig. 3



Continental states that the '324 Conobase is not only different, but avoids the stress concentrations of the Petaloid device, thus enhancing impact resistance. Monsanto argues that Continental simply used the Petaloid hollow ribs in combination with the Marcus patent. This requires determination of whether there was something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination, in a way that would produce the '324 structure. *See, e.g., Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988). Continental argues that it is not apparent, even with hindsight, how any combination of the Petaloid and Marcus patents or other references lead to the '324 base. The Petaloid patent shows concave ribs that extend all the way to the sidewall, while the Marcus ribs extend "from the heel" toward an annular central ring. The Petaloid base has wide, petal-like, open ribs, while Marcus shows narrow, beam-like ribs. The deposition testimony was in conflict as to the inferences drawn from the references.

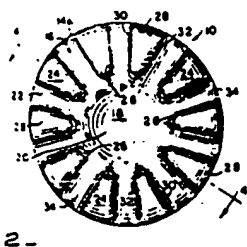
On this disputed issue, drawing reasonable inferences in favor of the non-movant, it has not been established that one skilled in the art would be motivated to select and combine features from each source in order to make the '324 base. *Interconnect Planning*, 774 F.2d at 1143, 227 USPQ at 551 ("When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself").

The Decaloid Patent

The district court also referred to combination of the Decaloid base with the Marcus base. The Decaloid base has ten hollow ribs that extend to the sidewall, and ten feet between the ribs:

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Fig. 2



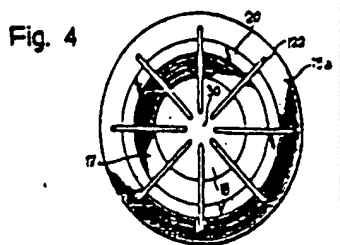
Monsanto does not explain, and we can not discern, how the combination with Marcus would have led a person of ordinary skill to the '324 base. The court's summary holding of obviousness based on these references, separately or in combination, can not be sustained.

The Colombo Patent

The Colombo base, like the Petaloid and Decaloid bases, has hollow ribs that extend to the sidewall, in a still different structure from that of Marcus and also from that of the '324 patent. Colombo describes his ribs as

inverted U-shapes, concave, located on the outer surface of the central concavity:

Fig. 4



Again, drawing reasonable factual inferences in favor of Continental, and in the absence of any suggestion or motivation in the prior art as a whole to make a selective combination of the Colombo and Marcus structures along with other changes needed to obtain the '324 structure, summary judgment of obviousness was inappropriate.

The district court found that there was no substantial difference between the '324 invention and the combined teachings of the prior art:

As obviousness can be established on the basis of the combined teachings of references, we think it is clear that simple enhancements of existing prior art, i.e., inverting the '270 petaloid base, do not constitute a substantial difference between the subject matter claimed in the '324 patent and that of the prior art. Thus, the facts of this case reveal no substantial difference between '324 and the prior art. *Continental*, 11 USPQ2d at 1769 (citation omitted). However, as we have discussed, the criterion of § 103 is not whether the differences from the prior art are "simple enhancements", but whether it would have been obvious to make the claimed structure.

Objective Indicia

The district court concluded that the structure in suit is simply a variation on known themes. It is in such circumstance that the objective indicia - the so-called secondary considerations - are most useful to the decision-maker. The significance of a new structure is often better measured in the marketplace than in the courtroom. [6] Thus when differences that may appear technologically minor nonetheless have a practical impact, particularly in a crowded field, the decision-maker must consider the obviousness of the new structure in this light. Such objective indicia as commercial success, or filling an existing need, illuminate the technological and commercial environment of the inventor, and aid in understanding the state of the art at the time the invention was made. *See In re Piasecki*, 745 F.2d 1468, 1475, 223 USPQ 785, 790 (Fed. Cir. 1984) (secondary considerations "often establish that an invention appearing to have been obvious in light of the prior art was not" (quoting *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39, 218 USPQ 871, 879 (Fed. Cir. 1983))).

Continental licensed the '324 counterpart Japanese patent to a Japanese company, Yoshino, that we are told had been unable to develop a plastic bottle for hot-fill applications. A witness for Toyo Seikan, another Japanese licensee, testified that the Conobase "sustains itself in higher temperatures, and it does not cause buckling after you fill [the bottle]", as compared with previously available plastic bottles. Continental asserts that Monsanto had been unable to develop a satisfactory bottle for hot-fill applications, and had therefore obtained this technology from Yoshino.

[7] The district court acknowledged the commercial success of the Conobase, but stated that "we are not convinced that the conobase *alone* accounts for any of the success." 11 USPQ2d at 1770 (emphasis in original). The court suggested that the commercial success in Japan was due to the market strength of the Japanese licensees, and held that there is no nexus between the merits of the product and its commercial success. It is not necessary, however, that the patented invention be solely responsible for the commercial success, in order for this

factor to be given weight appropriate to the evidence, along with other pertinent factors. *See generally Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392-94, 7 USPQ2d 1222, 1226-28 (Fed. Cir.), cert. denied, 488 U.S. 956 (1988); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546, 221 USPQ 1, 7 (Fed. Cir. 1984). Monsanto also states that the Conobase is different from the '324 invention, so that even

were the Conobase successful, this does not inure to the benefit of the '324 patent. It is apparent that the factual issues surrounding the objective indicia were disputed, and material.

In view of the material facts requiring resolution, the issue of obviousness was not properly decided on motion for summary judgment. We vacate the grant based on 35 U.S.C. § 103, and remand for trial of this issue and the other issues remaining in the case.

Costs

Costs in favor of Continental.

REVERSED IN PART, VACATED IN PART, and REMANDED

Footnotes

Footnote 1. *Continental Can Co. USA v. Monsanto Co.*, 11 USPQ2d 1761 (S.D. Ohio 1989), *reconsid. denied*, No. C-1-86-1213 (S.D. Ohio Nov. 9, 1989).

- End of Case -

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